

4Port RS-232C Interface Module for USB
COM-4(USB)
User's Manual

CONTEC CO.,LTD.

Check Your Package

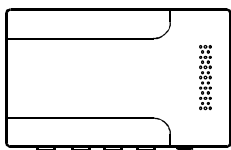
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The product consists of the items listed below.

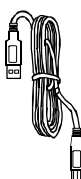
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Product Configuration List

- Terminal...1
[COM-4(USB)]
- USB Cable...1
- Power Cable...1
- This User's Manual...1
- COM Setup Disk(CD-ROM)...1



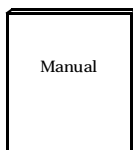
Terminal



USB Cable



Power Cable



Manual



CD

Copyright

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1. Before Using the Product

This chapter provides information you should know before using the product.

About the Terminal

This product is an RS-232C communication terminal with a USB interface that can be used to perform RS-232C serial communications with external devices.

Each terminal has four RS-232C serial ports.

You can use the standard COM driver software (COM Setup Disk) supplied with the terminal to access the serial ports as standard Windows COM ports.

To use this terminal, you must install the appropriate CONTEC driver software.

Features

- Maximum communication speed = 115,200bps.
- The baud rate for each channel can be set independently.
- Each channel is equipped with separate 4K-byte FIFO buffers for transmit and receive.
- A maximum of 16 terminals can be installed as configured in the range COM1 to COM64.
- Driver software is supplied to allow the serial ports to be used as standard Windows COM ports.
- Uses the same easy-to-use 9-pin D-SUB connectors as a PC.

Support Software

You should use CONTEC support software according to your purpose and development environment.

Standard COM Driver Software COM Setup Disk **COM Setup Disk (Bundled)**

Under Windows, this software allows you to use the serial ports on the terminal as if they were standard COM ports on the PC. You can add additional terminals up to a maximum of 64 COM ports.

The terminals can be used for all types of serial communications such as for remote access service (RAS) and uninterruptible power supply (UPS) applications.

Under Windows, the serial ports can be accessed using the standard Win32 API communication routines (CreateFile(), WriteFile(), ReadFile(), and SetCommState(), etc.) The serial ports are also compatible with the Visual Basic communication control (MSComm).

< Operating environment >

OS Windows XP, 2000, Me, 98 etc..

Base package of ActiveX components for measurement system development

ACX-PAC(W32)BP (Option)

"This is a set of useful Windows development tools for measurement systems and consists of a software component library with ready-to-use samples which you can combine for easy programming.

The package contains components for controlling CONTEC I/O boards (PC cards). Features include interface control for analog I/O, digital I/O, GPIB communications, and counter inputs, as well as X-Y plotting and file storage support.

Check the CONTEC's Web site for more information on this soft.

Advanced Package of ActiveX components for measurement system development

ACX-PAC(W32)AP (Option)

"Complements the ACX-PAC(W32)BP functions with additional components including graphics (plotting, switches, and lamps, etc.) and mathematical and analysis tools.

Check the CONTEC's Web site for more information on this soft.

Cable & Connector (Option)

RS-232C Straight Cable with D-SUB9P (1.8m)	:	RSS-9M/F
RS-232C Cross Cable with D-SUB9P (1.8m)	:	RSC-9F
RS-232C Connection Conversion Straight Cable (25M→9F, 1.8m)	:	RSS-25M/9F
RS-232C Connection Conversion Cross Cable (25F→9F, 1.8m)	:	RSC-25F/9F
D-SUB9P Male Connector Set (5 Pieces)	:	CN5-D9M
D-SUB9P Female Connector Set (5 Pieces)	:	CN5-D9F

* Check the CONTEC's Web site for more information on these options.

Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

Web Site

Japanese	http://www.contec.co.jp/
English	http://www.contec.com/
Chinese	http://www.contec.com.cn/

Latest product information

CONTEC provides up-to-date information on products.

CONTEC also provides product manuals and various technical documents in the PDF.

Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

Limited Three-Year Warranty

CONTEC Terminals are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to three years from the date of purchase by the original purchaser.

Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.

This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and original terminals. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization Number (RMA) from the CONTEC group office where you purchased before returning any product.

*** No product will be accepted by CONTEC group without the RMA number.**

Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from Safety Precautions




Understand the following definitions and precautions to use the product safely.

Safety Precautions

Understand the following definitions and precautions to use the product safely.

Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

 DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Handling Precautions

DANGER

Do not use the product where it is exposed to flammable or corrosive gas. Doing so may result in an explosion, fire, electric shock, or failure.

CAUTION

- There are switches on the terminal that need to be set in advance.
Please check these before turning on the power.
- Do not strike or bend the terminal. Doing so could damage the terminal.
Otherwise, the terminal may malfunction, overheat, cause a failure or breakage.
- If you notice any strange odor or overheating, please unplug the power cord immediately.
- Do not place objects on top of or next to the terminal in such a way that they obstruct the air vents.
- Do not install or remove the terminal to or from the slot while the computer's power is turned on.
Otherwise, the terminal may malfunction, overheat, or cause a failure.
Doing so could cause trouble. Be sure that the personal computer or the I/O expansion unit power is turned off.
- Make sure that your PC or expansion unit can supply ample power to all the terminals installed.
Insufficiently energized terminals could malfunction, overheat, or cause a failure.
- The specifications of this product are subject to change without notice for enhancement and quality improvement.
Even when using the product continuously, be sure to read the manual and understand the contents.

Environment

Use this product in the following environment. If used in an unauthorized environment, the terminal may overheat, malfunction, or cause a failure.

Operating temperature

0 to 50°C

Humidity

10 to 90%RH (No condensation)

Corrosive gases

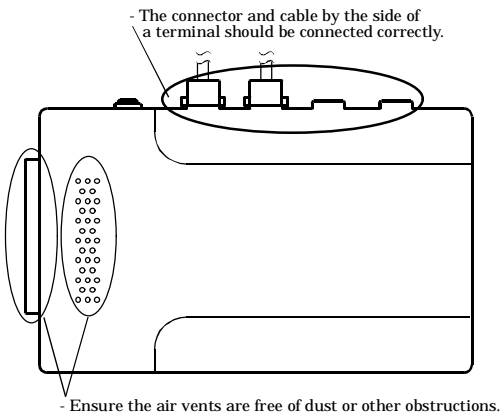
None

Floating dust particles

Not to be excessive

Inspection

Inspect the product periodically as follows to use it safely.



Storage

When storing this product, keep it in its original packing form.

- (1) Put the terminal in the storage bag.
- (2) Wrap it in the packing material, then put it in the box.
- (3) Store the package at room temperature at a place free from direct sunlight, moisture, shock, vibration, magnetism, and static electricity.

2. Setup

This chapter explains how to set up the terminal.

What is Setup?

Setup means a series of steps to take before the product can be used.

Different steps are required for software and hardware

The setup procedure varies with the OS and applications used.

Using the Terminal under Windows

This section describes the setup procedure to be performed before you can start developing application programs for the terminal using the bundled CD-ROM “Standard COM Driver Software - COM Setup Disk”.

Taking the following steps sets up the software and hardware. You can use the diagnosis program later to check whether the software and hardware function normally.

Step 1 Setting the Hardware

Step 2 Installing the Hardware

Step 3 Initializing the Software

On the CD-ROM, refer to the \PCI\Readmee.txt file and the installation instructions files for each OS located in the \PCI\InstDoc.

If Setup fails to be performed normally, see the “Setup Troubleshooting” section at the end of this chapter.



CAUTION

Please note that Windows NT and Windows 95 versions earlier than OSR2.x are not supported.

On Windows 95 (OSR2.x), the driver software will not work correctly if the USB patch file is not installed. Please refer to the manuals for your OS or PC for details about the USB patch file.

Please note that suspend(standby)/resume are not supported. Please setting power options for your PC.

Step 1 Setting the Hardware

This section describes how to setup the terminal and connect it to your PC.
The terminal has a number of switches that must be set before use.
Always check these settings before connecting the USB cable.
The default factory setting may be used. You can change the settings later if necessary.

Parts of the Terminal and Factory Defaults

Figure 2.1. show the names of major parts on the terminal.
Note that the switch setting shown below is the factory default.

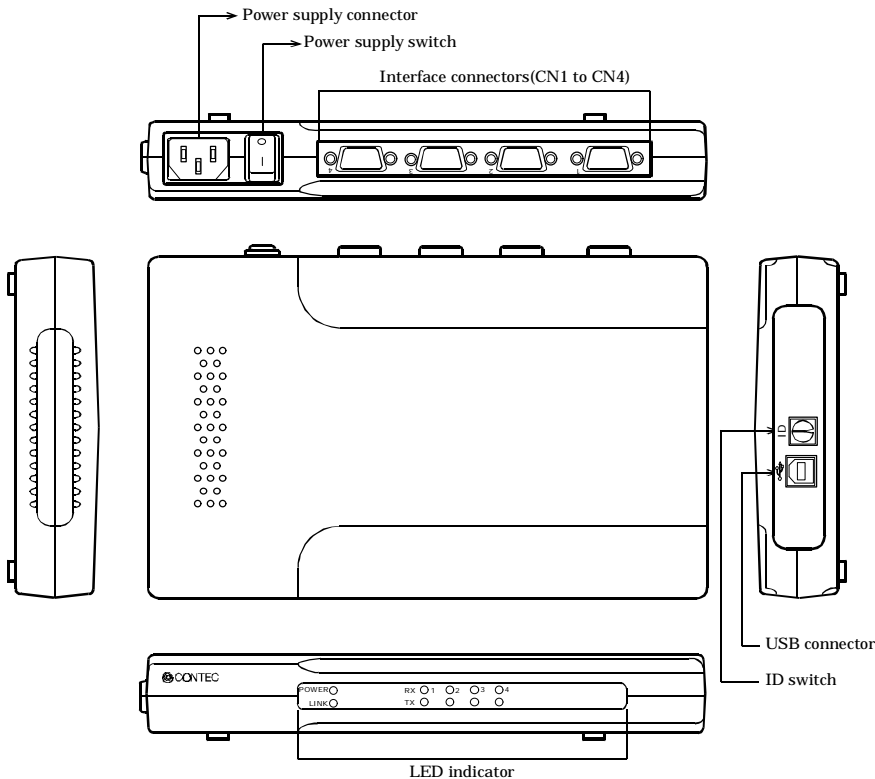


Figure 2.1. Component Locations

Setting the ID Switch

If you install two or more terminals on one personal computer, assign a different ID value to each of the terminals to distinguish them.

The ID Switch can be set from 0 to Fh to identify up to sixteen terminals.

If only one terminal is used, the original factory setting (ID Switch = 0) should be used.

Setting Procedure

The ID is set using the rotary switch on the side of the terminal. Turn the switch to the desired setting. The figure below shows the rotary switch set to ID 0.

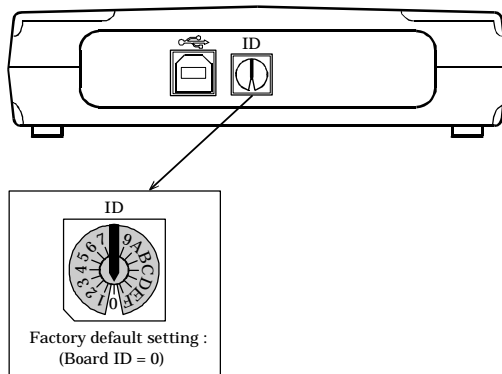


Figure 2.2. ID Switch Settings

⚠ CAUTION

Reboot the PC after changing the ID switch setting.

If using an external power supply, also turn the power switch off and then on again.

LED Indicators

The LEDs on the front panel indicate the power, USB port data link, and RS-232C port send/receive statuses.

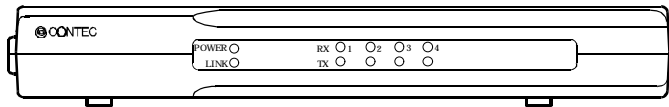


Figure 2.3. LED Indicators

Table 2.1. LED Indicators

LED Name	LED Indication
POWER(green)	Illuminated ... Power ON
	Not Illuminated ... Power OFF
LINK(green)	Illuminated ... USB port connection OK
	Not Illuminated ... USB port connection down or not connected
RX-1, 2, 3, 4 (green)	Flashing ... RS-232C port data reception in progress *1
	Not Illuminated ... No data being received,or not connected (1, 2, 3, and 4 correspond to the RS-232C port connector numbers.)
TX-1, 2, 3, 4 (yellow)	Flashing ... RS-232C port data Transmission in progress *1
	Not Illuminated ... No data being transmitted,or not connected (1, 2, 3, and 4 correspond to the RS-232C port connector numbers.)

*1 Note that the LEDs flash differently depending on the baud rate.

Connecting the USB Cable

Connect the terminal to the PC using the USB cable. You can also connect the terminal via a USB hub.

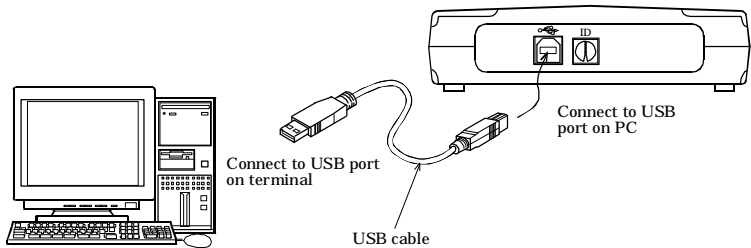


Figure 2.4. Connecting the USB Cable

Power Supply

If you want to use an external power supply, connect 100 VAC to the power supply connector and turn on the power switch. Enabling the USB bus power is also possible without using the external power supply. When using the bus power hub, be sure to use the power from COM-4(USB).

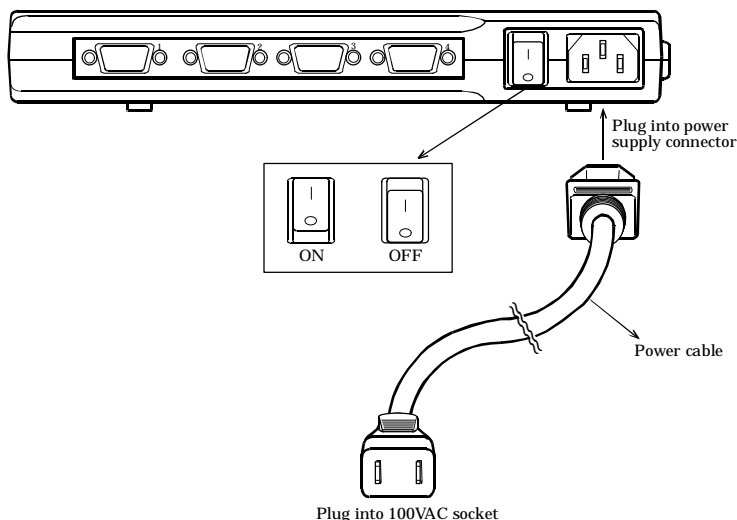


Figure 2.5. Power Supply

⚠ CAUTION

If the host controller type for the USB port is OpenHCD, use the external power supply (self power) when installing the COM-4(USB). On completing the installation, you can use the COM-4(USB) without using the external power (that is, bus powered). If the host controller type is Universal, you can install it using the bus power. Identify the host controller type using the following procedure.

- (1) Select [System] from [Control Panel] and open [Device Manager].
- (2) Double-click the [Universal Serial Bus Controller] folder.
- (3) A type for the host controller type will be displayed for review.

Installation Conditions

The following describes points to note when installing the terminal.

If locating the terminal on a desktop, place on a stable and level base and ensure there is sufficient space around the terminal.

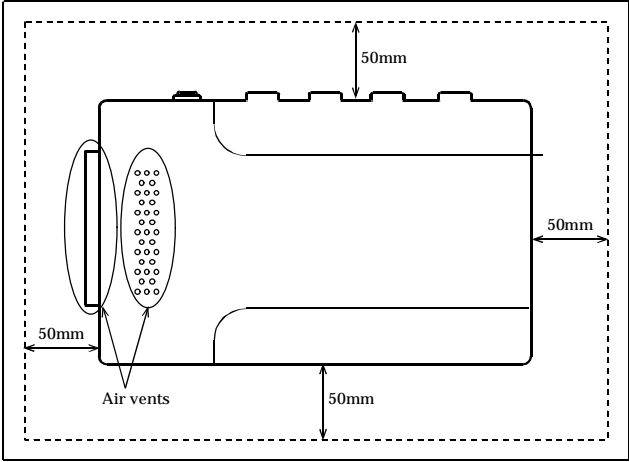


Figure 2.6. Installation Conditions

CAUTION

- The two circled parts of the terminal shown above are air vents. Do not place any objects on these vents.
- Holes are provided on the rear panel for wall mounting. Please obtain your own screws or other fasteners if mounting the terminal on a wall. Mounting screws are not available from CONTEC.

Step 2 Installing the Hardware

Under Windows, information about the terminal needs to be detected by the OS. This is called hardware installation.

When using multiple terminals, install one at a time and complete setup for the previous terminal before starting to install the next terminal.

Turning on the PC

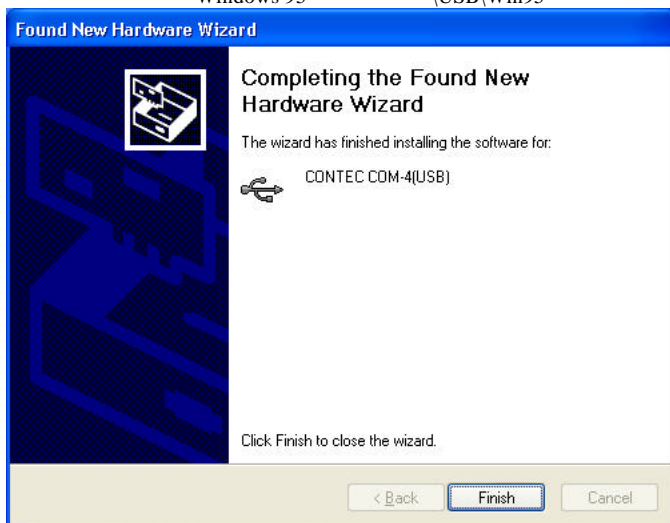
- (1) When using an external power supply, turn the power switch on after plugging the power cable into the 100VAC supply.
- (2) Connect the USB cable to the USB ports on the terminal and PC.
- (3) Turn on the power to the PC. It is also OK to turn on the power before performing steps (1) and (2).

Setting with the Add New Hardware Wizard

- (1) The “Add New Hardware Wizard” will be started.
Select “Install from a list or specific location”, then click on the [Next] button.



- (2) Specify that folder on the CD-ROM which contains the setup information (INF) file to register the terminal.
- | | | |
|-----------------|------------------|--------------|
| - Source folder | Windows XP, 2000 | \USB\Win2000 |
| | Windows Me, 98 | \USB\Win98 |
| | Windows 95 | \USB\Win95 |



⚠ CAUTION

In Windows XP, the Hardware Wizard displays the following alert dialog box when you have located the INF file. This dialog box appears, only indicating that the relevant driver has not passed Windows Logo testing, and it can be ignored without developing any problem with the operation of the terminal.

In this case, click on the [Continue Anyway] button.



- (3) Installation of the "Communication Port" starts next. If prompted for a file by the OS, specify the location of the setup information (INF) file, as described above.

You have now finished installing the hardware.

The check method of the completion of hardware installation

- (1) Select "System" from "Control Panel" and open [Device Manager].
- (2) Check that the names of the terminals you are using are registered correctly in the [USB controller] (or [Universal Serial Bus Controller]) folder.
- (3) Similarly, confirm that the COM ports have been added in the [Ports] folder.

Step 3 Initializing the Software

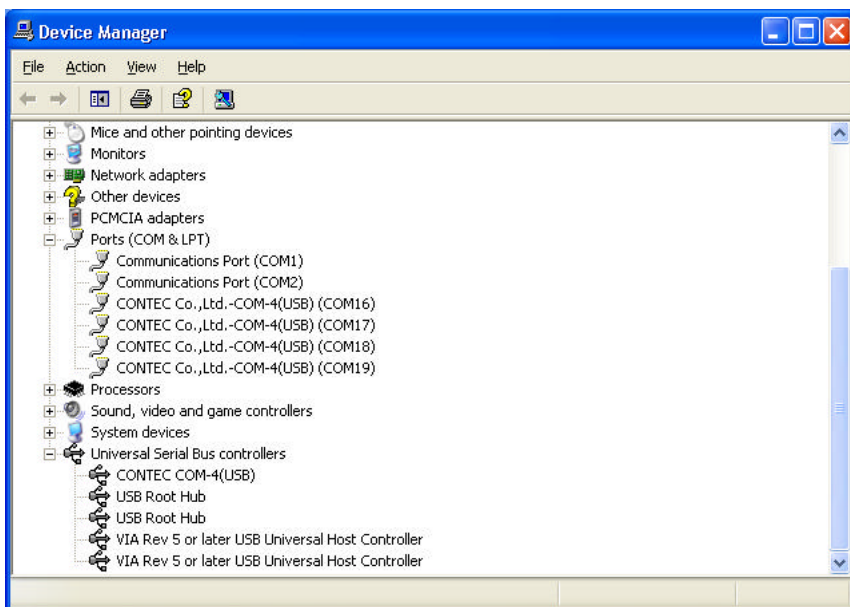
This assigns COM ports to the serial ports on the terminal. You can also change a previously assigned COM port number to a different number.

For use under Windows XP, Windows 2000

On Windows XP and Windows 2000, the COM ports are already assigned by the hardware installation step. Run Device Manager as described below if you wish to view or modify the COM port settings.

Start Device Manager

- (1) Select "System" from "Control Panel" and start [Device Manager].



- (2) Check that the new COM ports are displayed in the [Ports] folder.

Updating the Settings

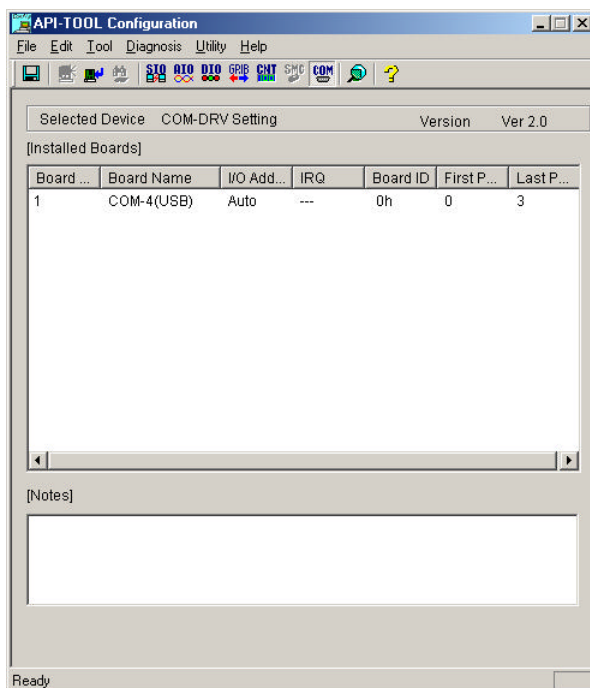
- (1) If you wish to change a port number, open the properties page for the port and click the [Advanced...] button under [Port Settings].
- (2) Use the [COM Port Number] combo box to modify the COM port number.

You have now finished installing the initial setting of Software.

For use under Windows Me, Windows 98 or Windows 95

Invoking API-TOOL Configuration

- (1) Run \USB\Config\Config.exe from the supplied CD-ROM.



- (2) Check that [COM-DRV Setting] appears on the screen.
If a different driver name appears, execute [Tools] - [COM-DRV].
- (3) Double click on the terminal type name that is already displayed on the screen and modify the COM port number and related settings.

Updating the Settings

- (1) Select "Save settings to registry..." from the "File" menu.
- (2) After rebooting, the registered COM ports are now able to be used as standard COM ports.

You have now finished installing the initial setting of Software.

Step 4 Checking Operations with the Diagnosis Program

Use the diagnosis program to check that the terminal and driver software work normally, thereby you can confirm that they have been set up correctly.

What is the Diagnosis Program?

These programs perform some simple checks on the terminal operation. Two programs are provided.

Terminal program (CTstCom.exe)

Data entered from the keyboard is sent directly from the port. The function of the program is equivalent to the Hyper Terminal program provided with Windows.

Serial Communications Diagnostic Program (CommChk.exe)

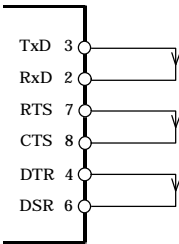
Performs actual communications and indicates whether the results are correct or not (error).

The following describes the procedure for testing using the serial communications diagnostic program (CommChk.exe).

Check Method

Obtain an RS-232C crossed cable or a loopback connector. If using a loopback connector, you can perform the check using a single COM port. The figure below shows the wiring connections for a loopback connector.

Wiring connections for a loopback connector



Using the Diagnosis Program

Starting the Diagnosis Program

Run [\\Utility\\CommChk\\CommChk.exe] from the supplied CD-ROM.

Communication Settings

COM Setup: Specify the number of the COM port you wish to test.

If connecting two COM ports via a cross cable, specify the respective COM ports in [Device1] and [Device2].

When performing loopback communications on a single COM port, set the same port number in both [Device 1] and [Device 2].

Communication Settings: Specify the [Bits / Second], [Data bits] and other settings you wish to use.

Diagnostic Program for Serial Communications Port

COM Setup

Device1: COM3

Device2: COM4

Communication Settings

Bits / Second: 9600

Data bits: 8

Stop Bits: 1

Parity: None

Type of data

☒ Binary Codes (01h to FFh)

☐ Ascii String

Definition String:

SendCommand

Iterations

☒ Once

☐ Limited

☐ Infinity

Num. of Iterations: 10

Test Item

☐ Open/Close the port every time.

Port Open:

Device1:

Device2:

☒ From Device1 to Device2:

☒ From Device2 to Device1:

Port Close:

Device1:

Device2:

Iterations number:

Message:

Start Help End

Start test

Click the [Start] button to start the test using the specified conditions.

View test result

The test result is displayed in the [Message] window.

A successful completion message appears if the test completed OK.

Diagnostic Program for Serial Communications Port

COM Setup

Device1: COM3

Device2: COM4

Communication Settings

Bits / Second: 9600

Data bits: 8

Stop Bits: 1

Parity: None

Type of data

☒ Binary Codes (01h to FFh)

☐ Ascii String

Definition String: SendCommand

Iterations

☒ Once

☐ Limited

☐ Infinity

Num. of Iterations: 10

Test Item

☐ Open/Close the port every time.

Port Open:

Device1: OK

Device2: OK

☒ From Device1 to Device2: OK

☒ From Device2 to Device1: OK

Port Close:

Device1: OK

Device2: OK

Iterations number: 1

Message:

Normal Termination.

Start **Help** **End**

Setup Troubleshooting

Symptoms and Actions

If the terminal is not detected when you install the hardware.

If the USB port uses an OpenHCD type host controller, use the external power supply (self-power) when installing the COM-4(USB). Once installed, you can use the terminal without the external power supply (bus power).

If the USB port uses a "Universal" type host controller, you can use bus power even when installing. You can determine which type of host controller you have as follows:

- (1) From [Control Panel], select [System] and open [Device Manager].
- (2) Double click on the [Universal Serial Bus Controller] folder.
- (3) The type of host controller being used is displayed.

No response when installing the hardware [Windows 95]

If using Windows 95, check that you have an OSR2.x version. USB devices are not supported by Windows 95 versions earlier than OSR2.x. You can check the version as follows.

- (1) From [My Computer], open [Control Panel].
- (2) Double click on [System] to open the [System Properties] window.
- (3) Check the number displayed next to "System" on the [Information] page.

System: Microsoft Windows 95
 4.00.950C

If this number is 4.00.950 B or 4.00.950 C, you have an OSR2.x version OS and USB devices should be able to be used.

USB devices cannot be used if the number is 4.00.950 or 4.00.950 a.

Even on OSR2.x version OSs, USB devices will not work correctly if the USB patch file is not installed. Please refer to the manuals for your OS or PC for details about the USB patch file.

The device settings do not change when the ID switch setting is modified.

Reboot the system after changing the ID switch setting. If using an external power supply, also turn the power switch off and then on again.

Unplugging and then reconnecting the terminal causes the COM port numbers to change [Windows Me, 98, 95]

Immediately after installation, the COM port numbers used by the terminal are variable. Therefore, after installing the terminal, use the API-TOOL configuration program (CONFIG.EXE) to set the COM port numbers. After this, the serial ports on the terminal will always be assigned back to the same COM port numbers if you unplug and then reconnect the terminal.

If your problem cannot be resolved

Contact your retailer.

3. External Connection

This chapter describes the interface connectors on the terminal.
Check the information available here when connecting an external device.

Interface connectors

Use the interface connectors on the terminal to connect to external devices.

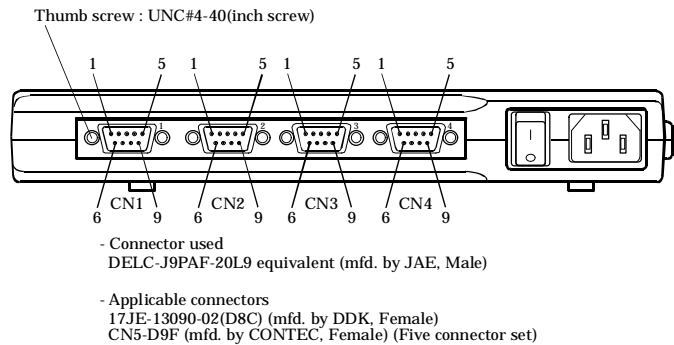


Figure 3.1. Interface Connectors

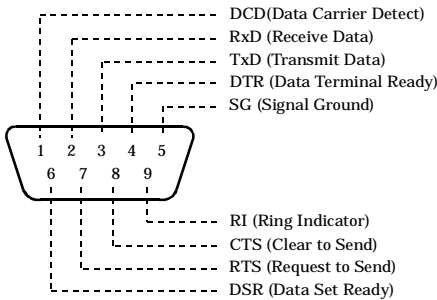


Figure 3.2. Interface Connector Pin Assignment

Cable (Option)

RS-232C Straight Cable with D-SUB9P (1.8m)	RSS-9M/F
RS-232C Cross Cable with D-SUB9P (1.8m)	RSC-9F
RS-232C Connection Conversion Straight Cable (25M→9F, 1.8m)	RSS-25M/9F
RS-232C Connection Conversion Cross Cable (25F→9F, 1.8m)	RSC-25F/9F

Types of Cable and Example Connections

When using an RS-232C interface, different cables are required depending on the type of device to which you are connecting (computer or modem, etc.). Check the requirements of the external device and select either a straight-through or crossed (null modem) cable as appropriate. If special treatment of the signal lines in the connector is required, ensure that this is done in accordance with the specifications.

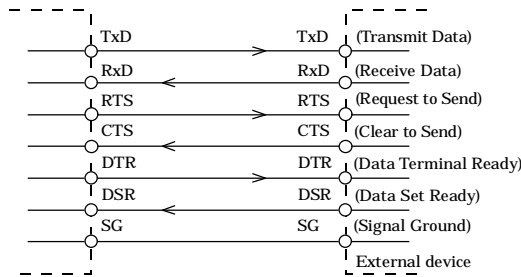


Figure 3.3. Example Connection to a Modem (Straight cable)

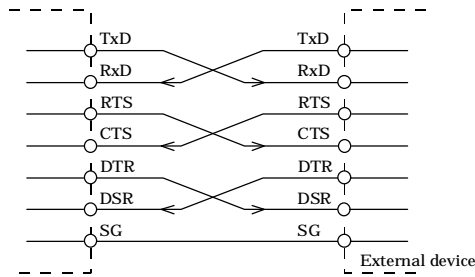


Figure 3.4. Example Connection to a PC (Cross cable)

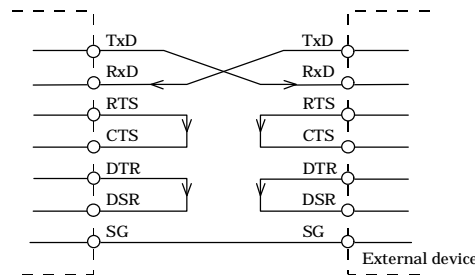


Figure 3.5. Example Connection to a Device

4. Functions

This section describes the functions of the terminal.

Communication Function

Serial Data Transmission

Sends and receives data in accordance with the RS-232C standard.

The baud rate for each channel can be set independently in the range 15 to 115,200bps by software.

RS-232C Control Lines

All ports include the RTS, CTS, DTR, and DSR control lines.

The lines can be controlled or monitored by software from the application

Send and Receive Data Buffers

Each channel has a separate 4-byte send and 4-byte receive buffer. These are useful for high speed communications and to reduce the load that the system places on the CPU.

Setting the Baud Rate

The baud rate is set by specifying the divide register value (divisor).

Baud Rate: 15 to 115,200bps

Table 4.1 lists the divisor settings for common baud rates when using the COM Setup Disk.

Table 4.1. Example Settings for Common Baud Rates

Baud Rate	Divisor	Setting Error	Baud Rate	Divisor	Setting Error	Baud Rate	Divisor	Setting Error
15	61440	-	1200	768	-	14400	64	-
50	18432	-	1800	512	-	19200	48	-
75	12288	-	2000	461	0.04	28800	32	-
110	8378	0.0022	2400	384	-	38400	24	-
134.5	6852	0.0006	3600	256	-	57600	16	-
150	6144	-	4800	192	-	76800	12	-
300	3072		7200	128	-	115200	8	-
600	1536		9600	96	-			

Use the formula below if you want to set a baud rate other than those listed in Table 4.1. A baud rate can only be set if the divisor calculated by the formula is an integer. Any digits after the decimal point indicate that the baud rate cannot be used.

$$921600 \div \text{Desired baud rate} = (\text{Divisor})\text{Division register setting value}$$

Ex.) $921600 \div 9600\text{bps} = 96$ (As the result is an integer, this baud rate can be set.)

$921600 \div 64000\text{bps} = 14.4$ (As the result contains a fractional part, this baud rate cannot be set.)

5. About Software

The "Standard COM Driver Software COM Setup Disk" from the supplied CD-ROM provides the following functions.

- Operation under Windows and Linux.
- The serial ports can be used in the same way as the standard COM ports on the PC.
- The terminals can be used for all types of serial communications such as for remote access service (RAS) and uninterruptible power supply (UPS) applications.
- The serial ports can be accessed using the standard Win32 API communication routines (CreateFile(), WriteFile(), ReadFile(), and SetCommState(), etc.)
- The serial ports are also compatible with the Visual Basic communication control (MSComm).

Refer to the \PCI\Readmee.txt files on the CD-ROM for details.

About Sample programs

Sample programs are provided in the \Samples folder on the CD-ROM. Use the sample programs for reference and testing when developing software.

Visual Basic sample programs

(1) Transmit/Receive sample

- Sends data entered from the keyboard and displays received data on the screen.
- Source folder: \Samples\Vb folder

Visual C++ sample programs

(1) Transmit sample

- Sends data entered from the keyboard. Execute from the command prompt.
- Source folder: \Samples\Vc\Comsend.c file

(2) Receive sample

- Displays received data on the screen.
- Source folder: \Samples \Vc\Comread.c file

Uninstalling the driver software

Use the following procedure to uninstall a previously installed COM Setup Disk.

- (1) Run [Device Manager] from [Control Panel] - [System].
- (2) Use the Delete key to delete the [CONTEC COM-4(USB) Serial Ports] entry that appears under [USB Controller] (or [Universal Serial Bus Controller]).
Next, use the Delete key to delete the [CONTEC COM-4(USB)] entry.
[CONTEC COM-4(USB) Serial Ports] is only present on Windows Me, 98, and 95.
- (3) Start Explorer.
- (4) Select [Tools] - [Folder Options].
- (5) Select the [View] tab.
- (6) Select [Show all folders and files] (or [Show all files]), then click OK.
- (7) Right click on the \Winnt\Inf folder (or \Windows\Inf folder) and run [Search].
- (8) Enter COM-4(USB) in the [Containing text] field then click [Start Search].
Do not enter anything in the [File or folder name] (or [Named]) field.
- (9) Delete all files found by the search.
- (10) Delete the driver file corresponding to the OS you are using.
Windows XP: Com4usb.sys and Com4port.sys in the \Windows\system32\drivers folder
Windows 2000: Com4usb.sys and Com4port.sys in the \Winnt\system32\drivers folder
Windows Me/98/95: Com4enum.vxd, Com4usb.vxd and Com4port.sys in the \Windows\system folder

CD-ROM Directory Structure

\	
└ Linux	Linux device driver (for PCI boards and PC cards only)
└ PCCARD	PC card related files
└ PCI	PCI board related files
└ Samples	Various sample programs
└ VB	Sample program for Visual Basic
└ VC	Sample program for Visual C++
└ USB	USB related files
└ Config	Configuration utilities
└ InstDoc	Installation instructions for each OS.
└ Win2000	Device driver and INF file for Windows XP/2000.
└ Win95	Device driver and INF file for Windows 95OSR2.
└ Win98	Device driver and INF file for Windows Me/98.
└ UTILITY	Various utilities
└ CommChk	Self diagnostic program (Loopback communication test)
└ CTstCom	Self diagnostic program (Terminal utility)

6. About Hardware

This chapter provides hardware specifications and hardware-related supplementary information.

Hardware specification

Tables 6.1 list the terminal specifications.

Table 6.1. Specification

Item	Specification
Number of channels	4ch
Interface type	RS-232C
Transfer method	Asynchronous serial transfer
Baud rate	15 to 115,200bps *1 *2
Data length	5, 6, 7, 8 bits 1, 1.5, 2 stop bits *1
Parity check	Even, Odd, Non-parity *1
Buffer size	4KByte send and 4KByte receive for each channel
Controller chip	16C654 or equivalent
RS-232C Connecting distance	15m within
USB transfer speed	12Mbps(full speed mode)
Max. length of USB signal cable	5m
power supply	Either self-power or bus-power can be used. *3
Power consumption	5VDC 210mA (Max.)
Operating temperature	0 to 50°C, 10 to 90%RH(No condensation)
Dimension (mm)	140.0(L) x 232.0(H) x 33.5(H)
Weight	420g(Excluding cable)

*1 These items can be set by software.

*2 Data transmission at high speed may not be performed normally depending on the environment including the type of status of connected material of cable and environment.

*3 If using a bus-power hub, use self-power for the COM-4(USB).

Attachment Hole Positions

The figure below shows the locations of the attachment holes in plan view.

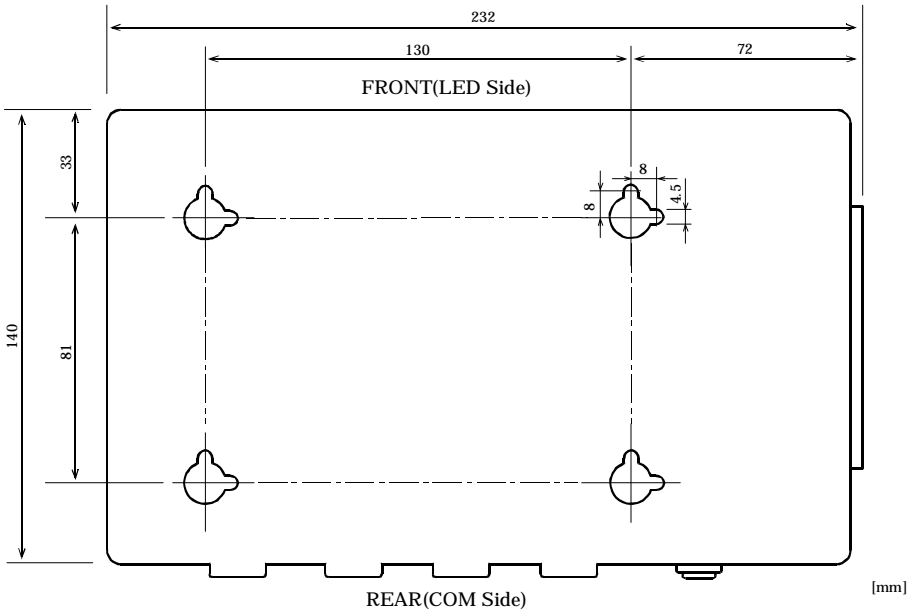


Figure 6.1. Attachment Hole Positions

COM-4(USB)

User's Manual

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